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Evaluation of I.T.Q. Progress Report, 1989-1990 Mobile Gears - 50' to 64'11" Groundfish Quebec Region

Economic and Commercial Analysis Report n° 106

Pêches et Océans Fisheries and Oceans

Canada

Evaluation of I.T.Q.
Progress Report, 1989-1990
Mobile Gears - 50' to 64'11"
Groundfish
Quebec Region

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PREFACE

Although we are well aware of the difficulty of assessing impact after only two years of operation of the **INDIVIDUAL TRANSFERABLE QUOTA** (I.T.Q.) program, we nevertheless felt it necessary to produce this progress report in order to set up an evaluation procedure to be followed over the coming three years. We should also mention that, at this stage, the evaluation procedure we propose does not allow us to clearly distinguish between the impact of the program and other factors making up the maritime fisheries environment, for example factors related to the groundfish market.

Our two main objectives in publishing this report were to define the themes, variables and types of impact that would be considered in an economic assessment of the I.T.Q. program for the fleet of groundfish trawlers 50' to 64'11" in length, and to describe the albeit partial results of the 1989 and 1990 fishing seasons.

In addition to a description of the evaluation method, the reader will find a series of charts and tables dealing with fleet characteristics, fishing effort, landings and financial results for the first two years of the program. Using a comparison between the 1989 and 1990 seasons and with the fleet of trawlers under 50' in length, we were able to pinpoint emerging trends.

The statistical information in the various tables was obtained from the Statistics and Informatics Division of Fisheries and Oceans Canada, Quebec Region. We take this opportunity to thank the personnel of this division for their valued assistance.

Economic Services Division
Department of Fisheries and Oceans
Quebec Region

ABSTRACT

The first year of the Individual Transferable Quota Program, 1989, was considered a pilot project, marked by the introduction of individual quotas, while during the second year, 1990, permanent transfer of quotas was introduced.

While it is too early in the history of the program to identify definite trends in the Quebec fleet, some preliminary trends have been noted, including the withdrawal of four vessels following quota transfers and an attempt to rationalize fishing effort.

SOMMAIRE EXÉCUTIF

Le programme des quotas individuels transférables n'a que deux ans d'existence, une première année à titre de projet pilote où on assiste à la mise en place des quotas individuels et une seconde, 1990, au cours de laquelle s'est ajoutée la transférabilité.

Bien qu'il soit trop tôt dans la mise en oeuvre du programme pour observer des tendances définitives chez la flotte québécoise, certaines s'amorcent; le retrait de quatre entreprises suite à des transferts de quotas, ainsi qu'un début de rationalisation de l'effort de pêche.

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1.0 INTRODUCTION: INITIAL APPROACH

The economic evaluation of the Individual Transferable Quota (I.T.Q.) Program will cover the period 1990 to 1994 inclusive. At the end of this period, the first five years of operation of the program will be assessed to determine the economic impact of this new management method on the primary sector of the industry.

Implementation of I.T.Q. was preceded in 1989 by a one-year pilot project during which the rules and operating procedures were tested. The 1989 season will therefore serve as a base year for the various analyses. This report thus represents the first evaluation exercise, covering the 1989 and 1990 seasons, the first in this proposed 10-year program.

1.1 Anticipated impact: efficiency and rationalization of fishing operations

The anticipated impacts of implementation of an individual transferable quota program are the following:

- elimination of the "race for fish"
- extension and better planning of the fishing season
- elimination of over-capitalization and rationalization of the sector
- lowering of operating costs and promotion of technological innovation
- increase in landing prices

Assessment of this program over a period of years requires the selection of variables which will both verify the theoretical impacts described above and trace the development of I.T.Q.s over a specific time frame.

In this study, information on vessels in this fleet is dealt with under four main themes:

- fleet characteristics and investments
- catch and fishing effort
- operating costs and earnings

Under each theme below, the reader will thus find confirmation of the anticipated impacts and the variables used in measuring them.

1.1.1 Fleet characteristics and investments

1.1.1.1 Impacts analysed

- elimination of over-capitalization
- rationalization of sector
- incentives for technological innovation

1.1.1.2 Variables related to fleet characteristics

The variables chosen are those most likely to trace developments in this fleet over the next five years. The portrait we will thus have of the fleet will be an indicator of the technological choices made by enterprises to deal with I.T.Q:

- total number of enterprises
- overall length
- age
- brake horsepower
- type of hull
- number of crew members

1.1.1.3 Variables related to investment

Do I.T.Q.s influence the investment decisions of enterprises? We attempt to answer this question by examining the following variables:

- amounts spent on repairs
- amounts spent on replacements
- amounts spent on improvements
- investment components

The variables listed deal with both the investments made in a vessel and the equipment found on board. This data is obtained from the Costs and Earnings survey conducted every three years by the Economic Services Division and will thus be updated only in the fall of 1993.

1.1.2 Catch and fishing effort

1.1.2.1 Impacts analysed

- elimination of the "race for fish"
- extension and better planning of the fishing season
- diversification of catch

1.1.2.1 Variables

The variables listed below were chosen as being best suited to describe the behaviour of enterprises with respect to the resource and follow changes in this behaviour under the I.T.Q. program.

- initial allocations
- final allocations
- number of voyages
- number of days at sea
- number of fishing days
- average length of fishing season (in days)
- weekly landing trends
- volume fished by species under allocation
- volume of other species caught
- number of hours trawled

1.1.3 Operating costs and earnings

1.1.3.1 Impacts analysed

- increase in landing prices
- decrease in operating costs

1.1.3.2 Variables

Closely linked to the economic performance of enterprises under I.T.Q., the variables chosen describe the economic situation of enterprises for the duration of the study.

To what extent can I.T.Q. enable fishermen to maximize their economic catch performance? This will be achieved either by decreasing the operating costs per quantity of fish, for example fuel costs, since the enterprise will be able to get a higher price for its catch. This information for the year 1989 was taken from the Costs and Earnings[1] survey and for 1990 from the publication Economic Performance of the Quebec Fishing Fleet.[2]

- average landing price
- fishing and other earnings
- fixed and variable operating costs
- cost of petroleum products
- maintenance costs
- labour
- financial expenses
- cash flow

1.2 Control fleet

The use of a control fleet enables us to trace and compare developments in two fleets operating under different conditions, I.T.Q. and competitive quotas. The comparison with a fleet using competitive quotas makes it possible to identify and isolate trends and specific facts related to the I.T.Q. program. The control fleet chosen is that of groundfish trawlers under 50 feet in length. Since both fleets use mobile gear and fish mainly for groundfish, trawlers under 50 feet and trawlers 50 feet to 64 feet 11 inches (64'11") in length differ only in their management method.

---

1 Lemieux, P. Costs and Earnings, 1989. ISBN 0-662-18382-7, 84 p.

2 Deschênes E. and J. Boucher, Economic Performance of the Quebec Fishing Fleet, 1990. Econ. Commer. Anal. Rep. No. 104. ISBN 0-662-19083-1, 96 p.

1.3 Technical and economic efficiency criteria

The variables chosen allow us to use ratios which can serve as criteria for technical and economic efficiency. They measure the efficiency of fleets and provide insight into the behaviour of enterprises through their operations.

The first group of criteria measure the efficiency of the fleet in terms of landings and fishing effort:

- ratio of volume of fish landed to number of fishing days
- ratio of volume of fish landed to number of hours trawled

This gives rise to a second group of criteria, which are economic in nature:

- investment per volume landed
- investment per fishing day
- investment per fishing voyage
- investment per hour trawled

These criteria reflect progress towards achieving objectives related to rationalization and over-capitalization, thus yielding a measure of the economic efficiency of the enterprise.

By examining all the above criteria annually, we can determine whether I.T.Q. has brought any change in the behaviour of enterprises in terms of their fishing operations.

The criteria selected are those tested and presented in the publication Comparative Analysis, 1989 Performance, Quebec Groundfish Trawlers, 50' to 64'11"[3] published in August 1990.

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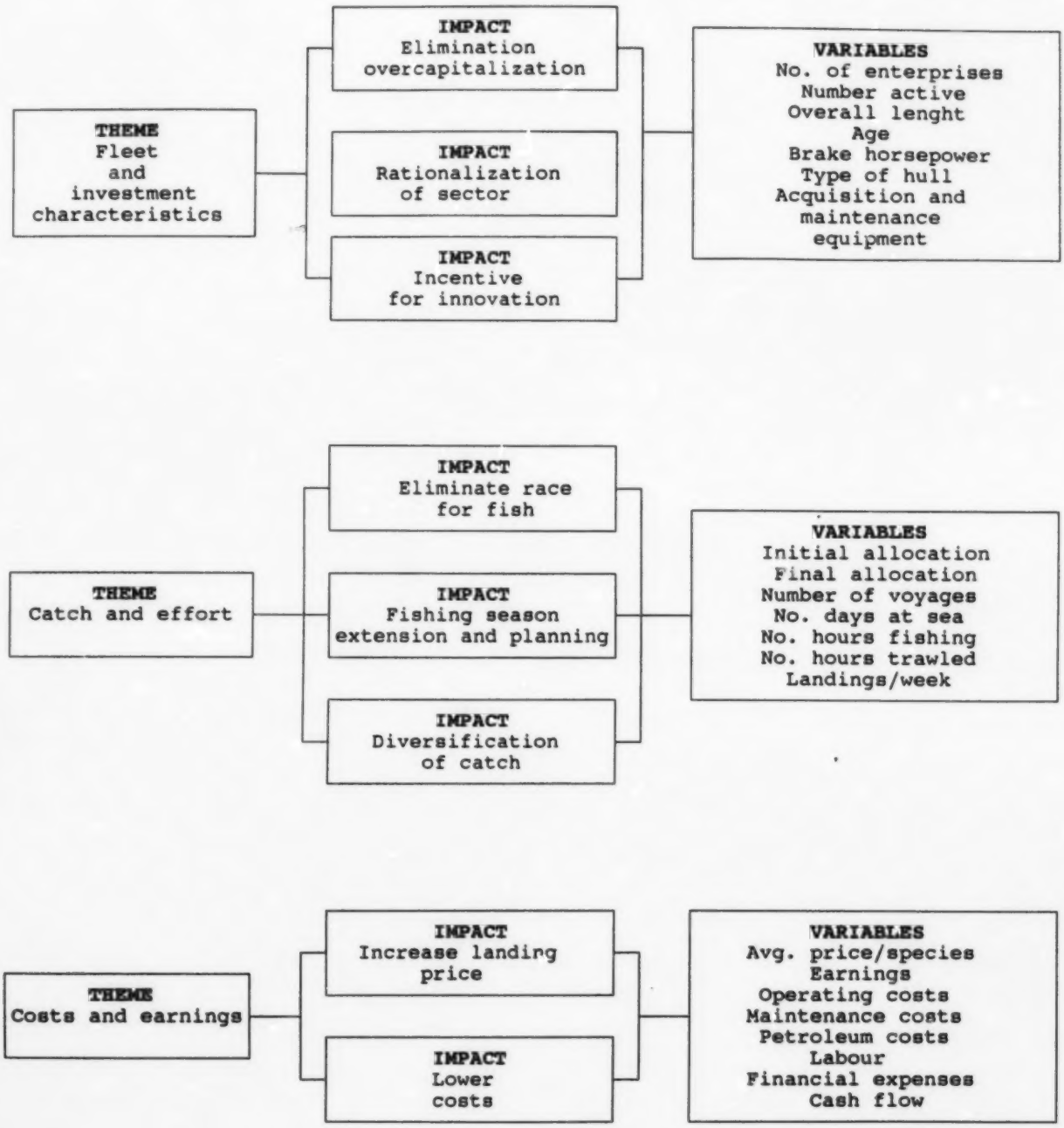
[3] Cantin, C. M. Benbiga and D. Pelletier. Comparative Analysis, 1989 Performance, Quebec Groundfish Trawlers, 50' to 64'11". Department of Fisheries and Oceans, Economic and Commercial Analysis Report No. 69, 1990, ISBN 0-662-18195-6, 45 p.

EVALUATION STRUCTURE



2.0 THEME: FLEET AND INVESTMENT CHARACTERISTICS

2.1 Impacts: Elimination of over-capitalization and incentive to innovate

To analyse impacts based on fleet and investment characteristics, we must have a description of the physical and financial aspects of enterprises under quota.

Let us first go back to 1989, when there were 49 enterprises participating in the program. We thus have a fleet of 49 vessels of an average length of 57 feet, equipped with 402 HP engines. The vessels are an average of 6.5 years old, and there are four crew members including the captain.

In 1990, we have basically the same picture, except for the number of participants. As the result of withdrawal of four Gaspé enterprises due to permanent quota transfers and the addition of two Lower North Shore vessels which changed from fixed to mobile gear under a special program for that region, we have 47 enterprises with individual transferable quotas.

Looking at investments, the initial purchase value of these trawlers was $771,717 in 1989, covering the hull, electronic equipment, deck and engine. Expenditures on vessel improvements or modifications totalled an average of $16,770. No figures are available for 1990.

The technical and economic efficiency criteria used under this theme are: investment/kg landed, investment/voyage and investment/fishing day. The table below shows the 1989 results.

Updating of these figures will coincide with the next Costs and Earnings survey planned for Spring 1993, and this should enable us to detect trends.

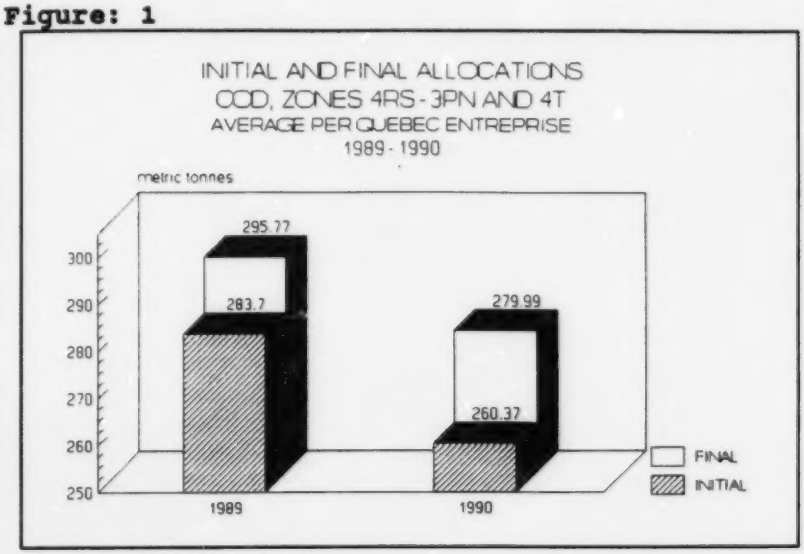
TECHNICAL AND ECONOMIC EFFICIENCY CRITERIA
INVESMENTS - 1989

CRITERIA	QUEBEC
INVESTMENT ($)/KG LANDED	2.30
INVESTMENT ($)/VOYAGE	32 448
INVESTMENT ($)/FISHING DAY	9 466

2.2 Impact: rationalization of sector

Among the variables used to measure rationalization of this sector is the number of enterprises, which can vary from year to year due to permanent transfers. Let us now look at the impact of withdrawing enterprises through quota allocations.

Figure: 1



On the whole, average final allocations of cod for mobile-gear equipped vessels 50' to 64'11" in length under I.T.Q. showed a decrease in the order of 5% from 1989 to 1990. However, observation of data on economic sectors sheds new light on the 1990 allocations. Withdrawal of four vessels from the fishery following permanent quota transfers enabled Gaspé North enterprises to increase their final allocations by nearly 16% from 1989 to 1990. Gaspé South enterprises showed a decrease of 2% in their final allocations due to the same transactions.

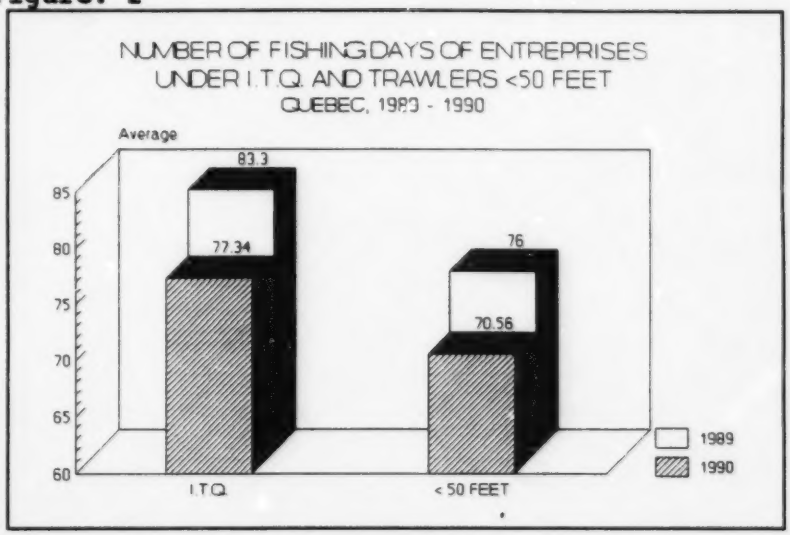
3.0 THEME: CATCH AND FISHING EFFORT

3.1 Impact: Elimination of the "race for fish"

The number of voyages, days at sea, fishing days and hours trawled are all indicators of effort which, from year to year, allow us to track trends that in the long run reveal the attitude of enterprises to the resource available. The observations below are an attempt to identify emerging trends related to fishing days.

3.1.1 Number of fishing days

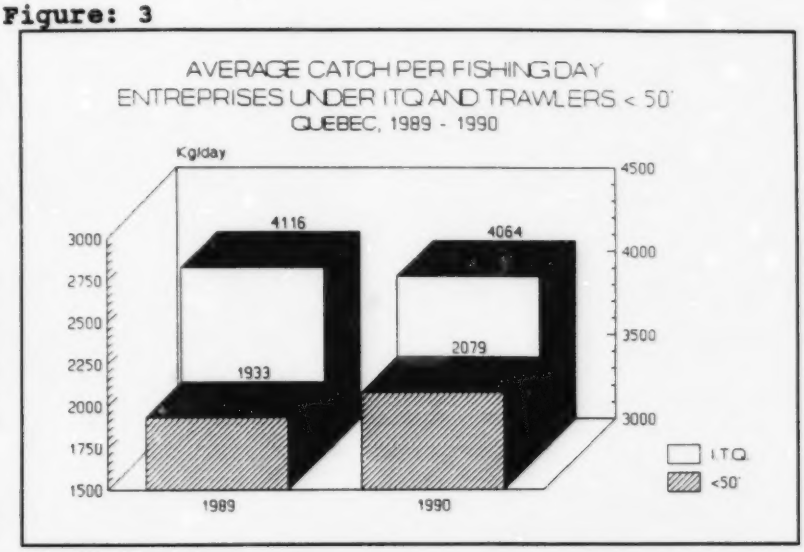
Figure: 2



From 1989 to 1990, the average number of fishing days decreased for both enterprises under I.T.Q. and trawlers under 50 feet in length. The decreases were 7.8% and 7.7% respectively. From this point of view, nothing as yet distinguishes enterprises under I.T.Q. from those under competitive quotas. The same downward trend is also seen in the other effort indicators: voyages, days at sea and hours trawled. It is thus impossible at this stage to find a direct link between the decrease in the different effort variables and the I.T.Q. program.

3.1.2 Catch per fishing day

Figure: 3



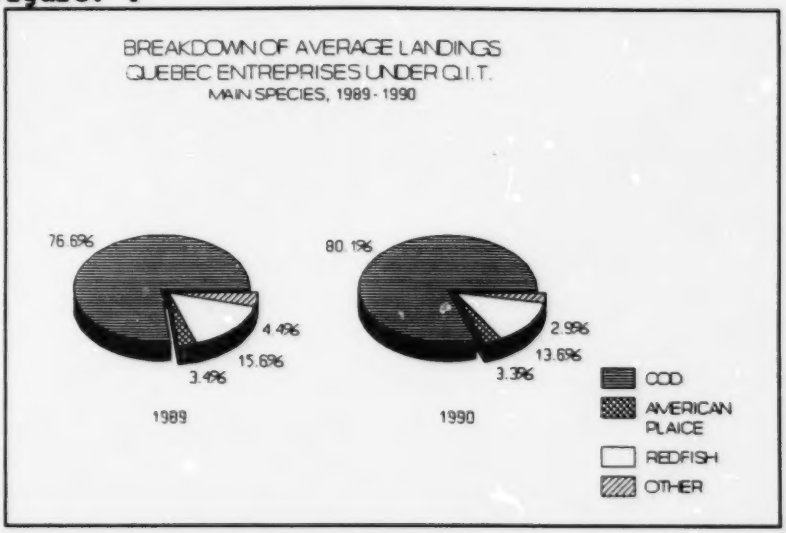
For Quebec as a whole, it can be seen that landings per fishing day decreased on average for enterprises under I.T.Q. while they increased for the fleet of trawlers under 50 feet in length. This criterion reflects the efficiency of fishermen in their fishing operations. The higher this figure, the more efficient the enterprise is considered.

These observations must be seen in the light of factors not related to fishing operations per se, such as the impact of a decrease in overall quotas and the withdrawal of vessels. In the current situation, we cannot conclude either that enterprises under 50' in length are more efficient or that enterprises under I.T.Q. are relatively inefficient, given the very short period of observation.

3.2 Impact: diversification of catch

Since they are assured of allocated quantities of cod and plaice by the I.T.Q. system, enterprises can direct their efforts towards other species, leading to greater diversification. This impact can be verified for the years studied.

Figure: 4

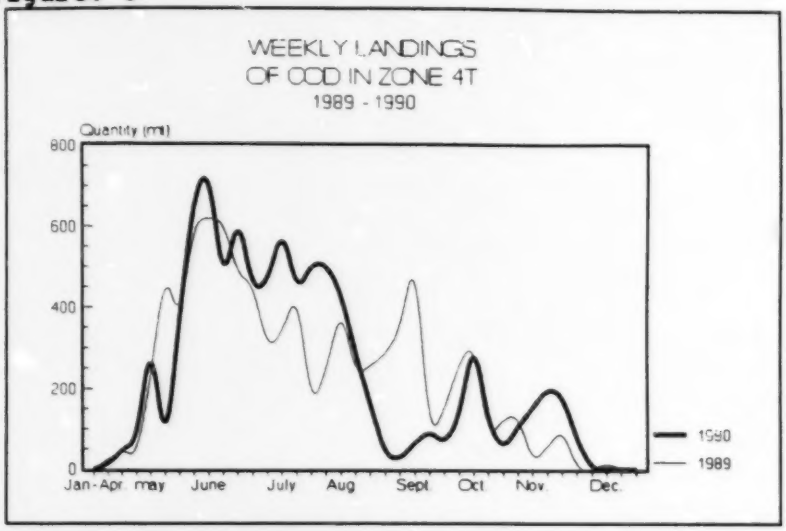


From 1989 to 1990, average cod landings per enterprise increased 1.5% for the Quebec fleet under I.T.Q. Cod made up 80.1% of landings in 1990, while in 1989 it accounted for 76.6%. This means that the proportion of redfish, plaice and other species decreased, and thus that so far the anticipated diversification has not occurred.

Average total landings decreased by 2.9% from 1989 to 1990. Like Gaspé North enterprises under I.T.Q., trawlers under 50 feet under competitive quotas increased their average landings of cod despite the fact that their average total landings stabilized during this short period.

3.3 Impact: extension and planning of season

Figure: 5



One of the motivations for the I.T.Q. program was to spread landings and better plan the fishing season. These factors should lead to a reduction in downward pressure on prices by relieving concentration of supply and thus enabling enterprises to fish in favourable market situations. They also allow processing plants to extend their operating period and maintain jobs associated with this fishery. It will be seen that, to date, there were smaller weekly variations in 1990 than in 1989. Moreover, an upward trend observed in early September might, if it continues, mark the beginning of a second distinct fishing period.

The next stage will be to compare trends observed for the three years preceding the program (1986, 1987 and 1988) with those of the third, fourth and fifth years of the I.T.Q. program.

4.0 THEME: COSTS AND EARNINGS

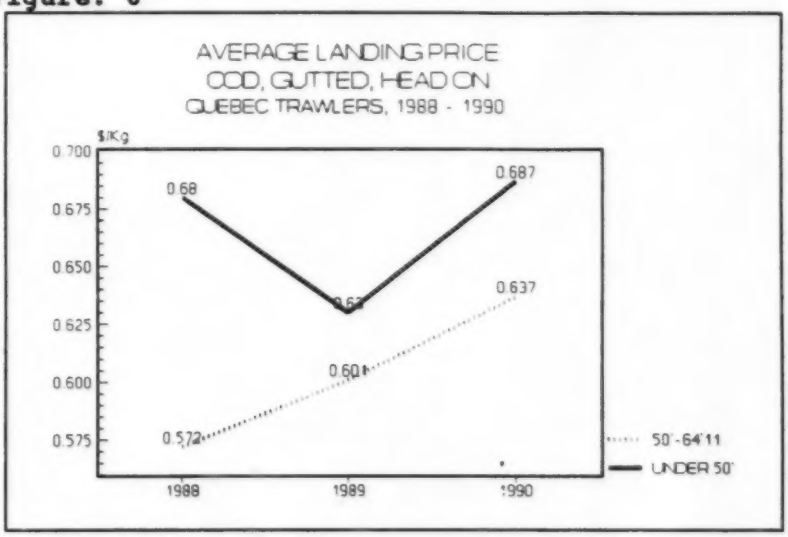
4.1 Increase in landing prices

The purpose of analysing this impact is not to explain the market conditions responsible for determining price, but rather to observe a trend that would confirm the fact that I.T.Q. results in an increase in landing prices. This assumption is based on two factors: I.T.Q. allow enterprises to fish when market prices are favourable and to offer better quality fish, since they can plan their operations to take advantage of this factor.

4.1.1 Cod

The prices obtained by enterprises under I.T.Q. in 1990 for gutted cod, head on, rose 11.4% in 1990 over 1988. Trawlers under 50' in length obtained prices 9% higher, following a decrease of 5¢/kg between 1988 and 1989. The price differential in favour of the fleet of trawlers under 50' is partly due to the fact they made shorter voyages. Short periods at sea lead to a better quality catch, which commands higher landing prices.

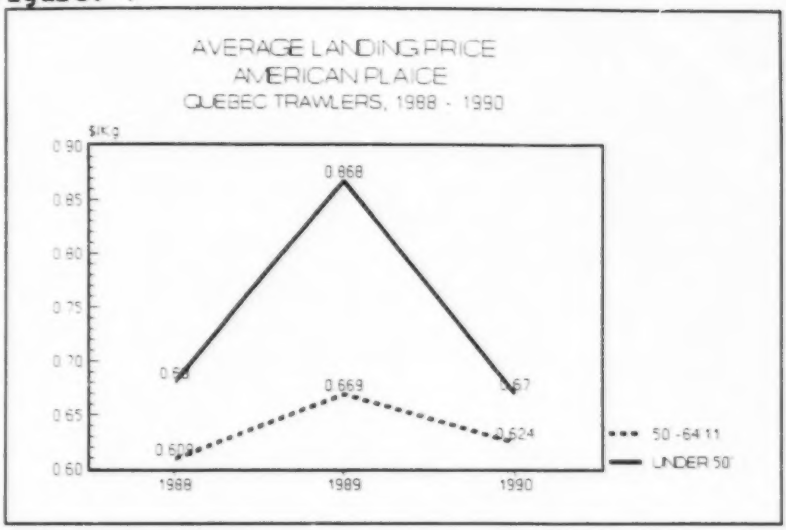
Figure: 6



4.1.2 American plaice

After a significant increase in 1989, the price of American plaice came back down to about 1988 levels in 1990. Trawlers under 50 feet and enterprises under I.T.Q. followed the same price trend, although the trend was more marked in the fleet of vessels under 50 feet, with an increase of 28% from 1988 to 1989 and a decline of 23% from 1989 to 1990. In the case of the I.T.Q. enterprises, the variation was 10% from 1988 to 1989 and 10% from 1989 to 1990.

Figure: 7



4.2 Impact: lowered costs

I.T.Q. means that an enterprise must make as much profit as possible from the quantities allocated it. The first way, as mentioned previously, is to promote an increase in landing prices, while the second, which is related to this theme, involves incentives to reduce operating costs.

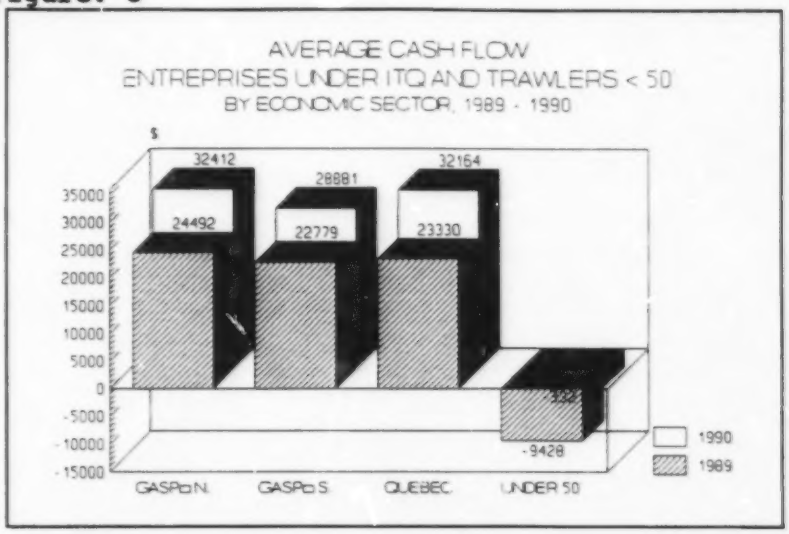
Since fuel costs are central to operations, changes in this cost in relation to the volume landed can serve as a measure of efficiency. The 1989 results indicate a cost of $ 0.06 per kilogram landed.

Unfortunately, no trend can be drawn from this efficiency criterion since data on fuel costs will only be available in the fall of 1993, following the *Costs and Earnings* survey.

4.2.1. Cash flow

If confirmed, the increase in landing prices, like the decrease in operating costs, will have a direct impact on cash flow. It is in this perspective that we present the following results, drawn from both the 1989 Cost and Earnings survey and estimates of the economic performance of the Quebec fishing fleet in 1990. It should, however, be noted that this estimate does not allow us to isolate operating costs. The costs presented are related to data on effort: number of voyages, days at sea and fishing days.

Figure: 8



The cash flow of Quebec enterprises rose from $23,330 to $32,164 on average, for an increase of 38%. This increase is due both to an increase in gross fishing earnings and a decrease in costs. This supports the observations of the previous sections. The increase in earnings can be attributed to rising cod landings and prices. Similarly, the decline in fishing effort confirms the decrease in costs.

4.2.1.1 Gaspé North enterprises under I.T.Q.

The acquisition of quotas was a significant factor in the almost $21,000 increase in earnings over 1989. Costs related to this additional income were only $12,971, resulting in an average cash flow of $32,412 in 1990, compared to $24,492 for the previous year, an increase of 32%.

4.2.1.2 Gaspé South enterprises under I.T.Q.

The average cash flow of Gaspé South enterprises rose from $22,779 in 1989 to $28,881 in 1990, for an increase of 27%. This increase is the result of a $2,124 increase in gross earnings and a decrease in costs of $3,978.
These fishermen expended less fishing effort in 1990 and landed less fish, but obtained a better price for cod than in 1989.

4.2.1.3 Trawlers less than 50 feet in length under competitive quotas

Trawlers under 50 feet had a cash flow deficit for the second year in a row. Despite this, the deficit recorded in 1990 was lower than in 1989 because of a decrease in operating costs due to the lower fishing effort. This fleet was affected by the decrease in the price of American plaice in 1990; this decrease to a certain extent minimized the effects of the increase in cod prices on cash flow.

5.0 CONCLUSION

The short observation period and the lack of relevant data were both limitations that prevented us from drawing any conclusions whatsoever as to definite impact.

The main benefit, then, of publishing this report is in defining now the methodology favoured for the evaluation process.

Despite the above, we can nevertheless point to two facts drawn from our observation of the 1989 and 1990 seasons: the withdrawal of four vessels following permanent transfers and the beginnings of a rationalization of fishing effort. Future analysis will confirm whether these trends have been maintained.

APPENDICES

TABLE 1

AVERAGE CHARACTERISTICS OF ENTERPRISES UNDER INDIVIDUAL TRANSFERABLE QUOTAS

BY ECONOMIC SECTOR AND TRAWLERS UNDER 50' UNDER COMPETITIVE QUOTAS

QUEBEC, 1989 - 1990

CHARACTERISTICS	NORTH SHORE		GASPÉ NORTH		GASPÉ SOUTH		MAGDALEN ISLANDS		QUEBEC		TRAWLERS UNDER 50'	
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990
NUMBER OF ENTERPRISES	3	5	16	14	25	23	5	5	49	47	10	10
OVERALL LENGTH	54.92	54.80	58.00	58.02	57.21	57.18	61.25	58.00	57.74	57.26	44.50	44.14
AGE OF VESSEL	6.33	8.40	7.31	7.64	5.72	6.74	8.20	6.20	6.53	7.13	9.00	8.70
BRAKE HORSEPOWER	365.0	342.0	411.7	413.2	409.1	415.9	361.4	360.4	402.4	401.3	228.0	243.4
CREW (including captain)	---	4.75	3.9	4.2	4.3	4.73	---	5.00	4.20	4.61	3.30	3.28

Source: Department of Fisheries and Oceans, Quebec Region, Statistics and Informatics Division.

TABLE 2

AVERAGE INITIAL ALLOCATION BY ECONOMIC SECTOR

ENTERPRISES UNDER INDIVIDUAL TRANSFERABLE QUOTAS

QUEBEC, 1989 - 1990 (metric tonnes)

ALLOCATIONS	NORTH SHORE		GASPÉ NORTH		GASPÉ SOUTH		MAGDALEN ISLANDS		QUEBEC	
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990
NUMBER OF ENTERPRISES	3	5	16	14	25	23	5	5	49	47
COD 4RS-3Pn	265.45	159.4	126.0	115.2	4.92	3.61	99.8	77.18	70.1	61.26
COD 4T	0.00	0.00	146.4	132.45	287.1	285.89	189.2	185.72	213.6	199.11
PLAICE 4T	0.00	0.00	17.13	26.64	19.0	18.04	14.40	17.00	16.78	18.57
TOTAL	265.45	159.4	289.6	274.33	311.1	307.55	303.4	279.89	300.5	278.95

Source: Department of Fisheries and Oceans, Quebec Region, Statistics and Informatics Division.

TABLE 3

AVERAGE FINAL ALLOCATIONS BY ECONOMIC SECTOR

ENTERPRISES UNDER INDIVIDUAL TRANSFERABLE QUOTAS

QUEBEC, 1989 - 1990 (metric tonnes)

ALLOCATIONS	NORTH SHORE		GASPÉ NORTH		GASPÉ SOUTH		MAGDALEN ISLANDS		QUEBEC	
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990
NUMBER OF ENTERPRISES	3	5	16	14	25	23	5	5	49	47
COD 4RS-3Pn	265.45	129.44	165.04	143.13	2.26	1.68	27.40	26.42	74.09	60.03
COD 4T	0.00	0.00	136.14	192.97	293.36	289.33	270.00	196.37	221.68	219.96
PLAICE 4T	0.00	0.00	15.88	31.03	19.62	17.98	14.40	17.00	16.66	19.85
TOTAL	265.45	129.44	317.06	367.13	315.23	308.99	311.80	239.79	312.43	299.84

Source: Department of Fisheries and Oceans, Quebec Region, Statistics and Informatics Division.

TABLE 4

AVRAGE FISHING EFFORT OF ENTERPRISES UNDER INDIVIDUAL TRANSFERABLE QUOTAS BY ECONOMIC SECTOR AND TRAWLERS UNDER 50' UNDER COMPETITIVE QUOTAS QUEBEC, 1989 - 1990

TYPE OF EFFORT	NORTH SHORE		GASPÉ NORTH		GASPÉ SOUTH		QUEBEC		TRAWLERS UNDER 50'	
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990
VOYAGES	36.33	33.26	27.19	25.50	21.00	20.29	24.30	23.57	45.10	45.10
DAYS AT SEA	108.00	77.69	131.13	135.13	94.36	83.97	108.66	100.28	80.00	85.60
DAYS FISHING	90.33	69.51	98.19	95.77	72.92	67.83	83.30	77.34	76.00	70.56
HOURS FISHING	228.83	280.26	1414.41	1343.9	1117.26	1037.1	1164.74	1049.3	1154.0	726.0

Source: Department of Fisheries ans Oceans, Quebec Region, Statistics and Informatics Division.
Department of Fisheries and Oceans, Gulf Region, Statistics and Informatics Division.

Note: Magdalen Islands vessels are not included in the provincial average.

TABLE 5

AVERAGE LANDINGS PER ENTERPRISE UNDER INDIVIDUAL TRANSFERABLE QUOTAS

AND BY TRAWLERS UNDER 50' IN LENGTH UNDER COMPETITIVE QUOTAS

MAIN SPECIES, QUEBEC, 1989 - 1990, (Kg)

SPECIES	GASPÉ-NORTH		GASPÉ SOUTH		QUEBEC		TRAWLERS UNDER 50'	
	1989	1990	1989	1990	1989	1990	1989	1990
COD	273 710	322 210	278 610	275 080	275 953	280 037	106 998	110 433
HADDOCK	0	0	0	0	14	49	0	0
REDFISH	90 187	48 063	7 527	944	56 140	47 666	7 349	12 939
ATLANTIC HALIBUT	408	392	145	12	222	130	55	35
AMERICAN PLAICE	13 972	17 296	12 127	9 901	12 126	11 564	29 453	19 951
WITCH FLOUNDER	8 121	7 770	4 921	1 285	5 569	3 427	637	370
WINTER FLOUNDER	0	90	425	22	309	306	353	251
GREENLAND HALIBUT	18 473	7 140	1 121	978	7 063	2 845	1 702	. 1 042
WITE HAKE	74	1 599	569	117	582	778	54	476
WOLFISH	0	11	0	0	14	25	2	9
OTHER GROUNDFISH	34	47	7	0	175	650	1	5
SHRIMP	0	0	0	0	1 867	2 053	0	0
SCALLOPS	0	0	0	0	0	0	329	755
WHELK	0	0	0	0	0	0	0	404
TOTAL	404 979	404 618	305 452	288 368	360 034	349 530	146 933	146 669

Source: Department of Fisheries and Oceans, Quebec Region, Statistics and informatics Division.
Department of Fisheries and Oceans, Quebec Region, Economic Performance of the Quebec Fishing Fleet.
Department of Fisheries and Oceans, Gulf Region, Statistics and Informatics Division.

Note: The Provincial average is taken for Economic Performance of the Quebec Fishing Fleet.

TABLE 6

AVERAGE LANDING PRICES, TRAWLERS 50' TO 64' 11" IN LENGTH

AND TRAWLERS UNER 50' IN LENGTH

QUEBEC, 1988 - 1990 ($/Kg)

SPECIES	FORM	YEAR	TRAWLERS 50'- 64'11''	TRAWLERS UNDER 50'
COD	GUTTED, HEAD ON	1988	0.572	0.680
		1989	0.601	0.630
		1990	0.637	0.687
ATLANTIC HALIBUT	GUTTED, HEAD ON	1988	2.791	2.273
		1989	2.800	3.666
		1990	3.095	3.733
AMERICAN PLAICE	ROUND	1988	0.609	0.680
		1989	0.669	0.868
		1990	0.624	0.670
TURBOT	GUTTED, HEAD ON	1988	0.558	0.731
		1989	0.915	1.078
		1990	1.309	1.084
REDFISH	ROUND	1988	0.335	0.335
		1989	0.362	0.275
		1990	0.305	0.330

Source: Department of Fisheries and Oceans, Quebec Region, Statistics and Informatics Division.

TABLE 7

AVERAGE INVESTMENT PER COST COMPONENT

ENTERPRISES UNDER INDIVIDUAL TRANSFERABLE QUOTAS BY ECONOMIC SECTOR

AND TRAWLERS UNDER 50' UNDER COMPETITIVE QUOTAS

QUEBEC, 1989 ($)

INVESTMENT COMPONENTS	GASPÉ NORTH	GASPÉ SOUTH	QUEBEC	TRAWLERS UNDER 50'
	1989	1989	1989	1989
INITIAL COST/CONSTRUCTION:				
HULL	486 049	560 428	536,433	190 189
ENGINE	142 115	88 757	105 970	45 111
DECK EQUIPMENT	120 376	71 072	86 977	39 644
ELECTRONIC EQUIPMENT	47 706	36 906	40 390	20 633
OTHER[1]	6 028	---	1 945	5 334
SUB-TOTAL	802 274	757 165	771 717	300 911
ADDITION/MODIFICATION:				
HULL	120	5 157	4 032	2 563
ENGINE	2 092	4 357	4 772	3 494
DECK EQUIPMENT	8 200	7 619	6 548	6 563
ELECTRONIC EQUIPMENT	2 974	357	1 379	1 683
OTHER	120	---	39	1 509
SUB-TOTAL	13 506	17 490	16 770	15 812
TOTAL	815 780	774 655	778 487	316 723

Source 1: Department of Fisheries and Oceans, Economics Division, Costs and Earnings, 1989.

Note: Investments are compiled in the Costs and Earnings survey published every three years. Scottish seiners not included.

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[1] Including safety and emergency equipment and value of license(s).

TABLE 8

CASH FLOW OF ENTERPRISES UNDER INDIVIDUAL TRANSFEREBLE QUOTAS BY ECONOMIC SECTOR

AND TRAWLERS UNDER 50' UNDER COMPETITIVE QUOTAS

QUEBEC, 1989 - 1990 ($)

ELEMENTS	GASPÉ NORTH ENTERPRISES 50 A 65 FEET		GASPÉ SOUTH ENTERPRISES 50 A 65 FEET		QUEBEC ENTERPRISES 50 A 65 FEET		TRAWLERS QUEBEC UNDER 50 FEET	
	1989	1990	1989	1990	1989	1990	1989	1990
EARNINGS								
FISHING EARNINGS	192 089	212 980	164 536	166 660	173424	180195	76 686	76 983
OTHER EARNINGS	2 100	2 100	0	0	677	677	0	0
TOTAL EARNINGS	194 189	215 080	164 536	166 660	174101	180872	76 686	76 983
COSTS								
FIXED OPERATING COSTS	15 594	15 594	17 410	17 410	16825	16825	8 289	8 289
MAINTENANCE/REPAIR COSTS	14 031	14 459	4 840	4 307	7805	6991	4 374	3 244
GEAR COSTS	7 884	8 124	8 662	7 708	8411	7534	4 615	3 423
VARIABLE OPERATING COSTS A	13 456	12 620	9 798	9 467	10978	9774	4 086	4 024
VARIABLE OPERATING COSTS B	31 971	32 946	23 963	21 324	26546	23777	13 636	10 115
LABOUR	49 318	54 682	37 055	37 533	41011	42612	24 412	24 507
FINANCIAL EXPENSES	37 443	44 243	40 029	40 029	39195	41195	26 702	26 702
TOTAL COSTS	169 697	182 668	141 757	137 779	150771	146708	86 114	80 304
CASH FLOW	24 492	32 412	22 779	28 881	23330	32164	(9 428)	(3 321)

Source 1: 1989: Department of Fisheries and Oceans, Quebec Region, Economics Division, Costs and Earnings.
2: 1990: Department of Fisheries and Oceans, Quebec Region, Economics Division, Economic Performance of the Quebec Fishing Fleet.

Note: In 1990, for the provincial average for trawlers 50 à 65 feet in length, $ 2,000 was added to financial expenses to take into account additional financial expenses due to purchase of quotas.
In 1990, for the Gaspé North average for trawlers 60 to 65 feet in length, $6,800 was added to financial expenses to take into account additional financial expenses due to purchase of quotas.
In 1990, no quotas were purchased in Gaspé South; therefore, no financial expenses were added.

TABLE 9

AVERAGE TECHNICAL AND ECONOMIC EFFICIENCY CRITERIA FOR ENTERPRISES

UNDER INDIVIDUAL TRANSFERABLE QUOTAS BY ECONOMIC SECTOR

AND TRAWLERS UNDER 50' UNDER COMPETITIVE QUOTAS

QUEBEC, 1989 - 1990

CRITERIA	NORTH SHORE		GASPÉ NORTH		GASPÉ SOUTH		QUEBEC		TRAWLERS UNDER 50'	
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990
QUANTITY PER VOYAGE	7925	5382	14847	15893	14784	14215	14108	13330	3258	3252
QUANTITY PER FISHING DAY	3187	2575	4111	4232	4258	4252	4116	4064	1933	2079
COD - PLAICE PER VOYAGE	6922	4539	10366	13090	13800	13962	11700	12064	3026	2891
COD - PLAICE PER FISHING DAY	2784	2172	2870	3485	3974	4176	3413	3677	1795	1848
INVESTMENT ($) PER KG LANDED	nd	nd	2.02	nd	2.50	nd	2.30	nd	2.16	nd
INVESTMENT ($) PER VOYAGE	nd	nd	30003	nd	36888	nd	32448	nd	7023	nd
INVESTMENT ($) PER FISHING DAY	nd	nd	8308	nd	10623	nd	9466	nd	4167	nd
FUEL PER KG LANDED	nd	nd	0.06	nd	0.06	nd	0.06	nd	77	nd

Source 1: Department of Fisheries and Oceans, Quebec Region, Statistics and Informatics Division.
2: Department of Fisheries and Eceans, Quebec Region, Economic Services Division, Costs ans Earnings.

Note: Magdalen Islands vessels are not included in the provincial average.

DIVISION DES SERVICES ECONOMIQUES

ECONOMIC SERVICES DIVISION

Ministère des Pêches et des Océans - Région du Québec
Department of Fisheries and Oceans - Quebec Region

(NOVEMBRE 1991)

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1984

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List of studies

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1983

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1984

84-1 Guide to Government Assistance Programs for the Quebec Marine Fishing Industry; ISBN-0-662-92919-5; 60 pages (not available).

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